

Claims

- [c1] A flowmeter comprising:
 - instantaneous flow rate detection means for detecting an instantaneous flow rate of fluid;
 - filter processing means for removing a pulse flow rate component of the instantaneous flow rate of the fluid by digital filter-processing the instantaneous flow rate of the fluid which is detected by the instantaneous flow rate detection means; and
 - stable flow rate calculation means for calculating a stable flow rate of the fluid based on an output from the filter processing means.
- [c2] A flowmeter according to claim 1, further comprising fluctuation determination means for determining whether the instantaneous flow rate of the fluid pulses or not,
 - wherein, when the fluctuation determination means determines that the instantaneous flow rate of the fluid pulses, the stable flow rate calculation means calculates a stable flow rate of the fluid based on an output from the filter processing means.
- [c3] A flowmeter according to claim 2, wherein the fluctua-

tion determination means determines whether the instantaneous flow rate of the fluid pulses or not, by determining whether or not a variation amplitude of the instantaneous flow rate of the fluid is equal to or greater than a predetermined value.

- [c4] A flowmeter according to claim 1, wherein the filter processing means modifies a filter characteristic according to a variation amplitude of the instantaneous flow rate of the fluid.
- [c5] A flowmeter according to claim 1, wherein, when the instantaneous flow rate of the fluid which is detected by the instantaneous flow rate detection means is lower than a predetermined flow rate, the filter processing means removes a pulse component of the instantaneous flow rate of the fluid.
- [c6] A flowmeter according to claim 1, wherein the filter processing means modifies a filter characteristic according to the instantaneous flow rate of the fluid.
- [c7] A flowmeter according to claim 1, wherein the filter processing means modifies a filter characteristic according to an interval of measurement times of the instantaneous flow rate detection means.
- [c8] A flowmeter according to claim 7, wherein, when the

flow rate is high, the filter processing means modifies a filter characteristic such that a cut-off frequency of the filter characteristic becomes high, and when the flow rate is low, the filter processing means modifies the filter characteristic such that the cut-off frequency of the filter characteristic becomes low.

- [c9] A flowmeter according to claim 1, wherein the filter processing means modifies a filter characteristic such that a variation amplitude of the stable flow rate calculated by the stable flow rate calculation means is within a predetermined value range.
- [c10] A flowmeter according to claim 1, wherein the instantaneous flow rate detection means detects the instantaneous flow rate by using an ultrasonic wave.
- [c11] A flowmeter according to claim 1, wherein the instantaneous flow rate detection means detects the instantaneous flow rate by using heat.